

**Notice of Allowability****Application No.**

09/848,095

**Applicant(s)**

SHORT ET AL.

**Examiner**

James S. Ketter

**Art Unit**

1636

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the papers filed 17 February 2004.
2. ☒ The allowed claim(s) is/are 1,2,7-18,20,21,23-28,33-44,47-49 and 51-55.
3. ☒ The drawings filed on 03 May 2001 and 27 August 2002 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 9/2/2003
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

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An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

The following "clean copies" of claims 1 and 26 merely reflect the changes made in the amendment filed 17 February 2004. No clean copies were provided in that amendment, therefore the following are provided solely to complete and clarify the record.

In the claims:

1. (Currently Amended) A method for identifying bioactivities or biomolecules using high throughput screening of nucleic acid comprising:
  - a) generating a normalized environmental gene library containing a plurality of clones in E.coli, wherein the nucleic acid for generating the library is naturally occurring and obtained from a mixed population of uncultured organisms;
  - b) transferring a plurality of the clones to myceliate bacteria or myceliate fungi;
  - c) encapsulating a bioactive substrate and at least one clone transferred in b) in a gel microdroplet, wherein a bioactivity or biomolecule produced by the clone is detectable by a change in fluorescence of the substrate prior to contacting with the at least one clone as compared to after the contacting; and

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- d) screening the microdroplet with an assay or an analyzer that detects the presence therein of the change in fluorescence of the substrate, wherein the change indicates the identity of the bioactivity or biomolecule.

26. (Currently Amended) A method for identifying bioactivities or biomolecules using high throughput screening of nucleic acid comprising:

- a) generating a normalized environmental gene library containing a plurality of clones in E.coli, wherein the nucleic acid for generating the library is naturally occurring and obtained from a mixed population of organisms;
- b) transferring a plurality of the clones to myceliate bacteria or myceliate fungi;
- c) inserting a polynucleotide into the clones transferred in b), wherein the polynucleotide encodes a bioactive protein substrate, wherein a fluorescence change in the substrate is detectable in the presence of a bioactivity or biomolecule; and
- d) screening the clones with an assay or an analyzer that detects the presence therein of the fluorescence change in the substrate, wherein the fluorescence change in the substrate identifies the bioactivity or a biomolecule.

Certain papers related to this application, OTHER THAN OFFICIAL RESPONSES, may be submitted directly to the Examiner by facsimile transmission at (571) 273-0770. The faxing of such papers must conform with the notices published in the Official Gazette, 1156 OG 61

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(November 16, 1993) and 1157 OG 94 (December 28, 1993)(see 37 CFR ' 1.6(d)). (703) 872-9306 may be used without notification of the Examiner, with such faxed papers being handled in the manner of mailed responses. Applicant is encouraged to use the latter fax number unless immediate action by the Examiner is required, e.g., during discussions of claim language for allowable subject matter. NO DUPLICATE COPIES SHOULD BE SUBMITTED so as to avoid the processing of duplicate papers in the Office.

Any inquiry concerning this communication or earlier communications from the Examiner with respect to the examination on the merits should be directed to James Ketter whose telephone number is (571) 272-0770. The Examiner normally can be reached on M-F (9:00-6:30), with alternate Fridays off.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Remy Yucel, can be reached at (571) 272-0781.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1600.

Jsk  
May 11, 2004



JAMES KETTER  
PRIMARY EXAMINER